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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,355	07/28/2000	Bob L. Mackey	CDST-F102	3572

7590

01/16/2003

John P Wagner Jr
Wagner Murabito & Halo LLP
Two North Market Street
Third Floor
San Jose, CA 95113

EXAMINER

DAY, MICHAEL HENRY

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/627,355

Applicant(s)
B. Mackey, et al.

Examiner
Michael Day

Art Unit
2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 16, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 and 36-44 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 and 36-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

1. Amendments B, and C, filed 12 August 2002, and 16 December 2002, respectively, have been entered.

Election/Restriction

2. Applicant's election without traverse of Group II, claims 10-18 36-44, in Paper No. 14, filed 16 December 2002, is acknowledged.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10, 12-14, 16, 36, 39, 40, and 42 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Taylor et al.

Referring to claims 10, 12-14, 16, 36, 39, 40, 42, Taylor et al. disclose a cathode substrate structure including a cathode substrate (see FIG. 3, col. 6, lines 44-49, substrate 66) including an electron emitting structure (emitters 70), and a barrier layer (insulating layer 64) of silicon dioxide 50 nm thick. Here it is the position of the examiner that the insulating barrier, as disclosed by

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Taylor et al. would inherently prevent electron bombardment as evidenced by Taylor et al.'s disclosure of all of the claimed structural limitations.

5. Claims 10, 12-15, 36, 37, and 39-41 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Borel et al.

Referring to claims 10, 12-15, 36, 37, and 39-41, Borel et al. disclose a cathode substrate structure including a cathode substrate (see FIG.11, col. 8, lines 38-52, glass substrate 6) having an electron emitting structure (cathodes 8), and a barrier layer (see col. 4, lines 1-4, silicon dioxide coating 7) 100 nm thick. Again, it is the position of the examiner that the insulating layer, as disclosed by Borel et al. would inherently prevent electron bombardment as evidenced by Borel et al.'s disclosure of all of the claimed structural limitations.

6. Claims 10, 18, 36, and 44 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Macaulay et al.

Referring to claims 10, 18, 36, and 44, Macaulay et al. disclose a cathode substrate structure including a cathode substrate 20 (see FIG.7F) having an electron emitting structure (filaments 30B), and a barrier layer (see col. 6, lines 1-4, region 22) 50 nm to 1,500 nm thick. Again, it is the position of the examiner that the region 22, as disclosed by Macaulay et al. would inherently prevent electron bombardment as evidenced by Macaulay et al.'s disclosure of all of the claimed structural limitations.

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 11, 17, 38, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. in view of Kanicki. Taylor et al. disclose a cathode substrate as recited in claim 10. Taylor et al. are silent as to the type of substrate. Kanicki disclose soda-lime substrates make a low cost substitute for hard glass substrates. It would have been obvious to use a soda-lime substrates, as disclosed by Kanicki., in the cathode substrate, as disclosed by Taylor et al., for the advantage of low cost. Here it is noted that while Taylor et al. are silent as to the type of substrate, the fact that Taylor et al. include a ion barrier layer suggests the use of a soda-lime substrate, as evidenced by Kanicki.

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Response to Arguments

9. Applicant's arguments with respect to claims 10, and 38 have been considered but are moot in view of the new grounds of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Day whose telephone number is 703/305-4941. The examiner can normally be reached on Monday-Friday, from 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel, can be reached by phoning 703/305-4794. The Fax phone number is 703/308-7382.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 703/308-0956.

January 10, 2003



**MICHAEL DAY
PRIMARY EXAMINER
GROUP 2870**